

# THE RESULTS OF DEEP-SEA INVESTIGATION IN THE TASMAN SEA.

## I.—THE EXPEDITION OF H.M.C.S. "MINER."

### I. INTRODUCTORY NOTE ON THE FIRST DEEP-SEA CRUISE.

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Having been enabled by means of a grant from the Royal Society of London to procure 3000 fathoms of steel-wire rope (supplied at cost price by Messrs. Bullivant), and having been granted, through the courtesy of Brigadier-General Gordon, C.B., the use of H.M.C.S. "Miner" with a strong crew under the command of Lieut.-Colonel J. H. A. Lee, we made on 5th to 7th June a first essay in deep-sea investigation in the Tasman Sea. The only soundings on the chart outside the hundred fathom limit are those recorded by the "Challenger" in 1874; and, depending upon these, we made our first cast of the dredge when we had reached a position distant about fifty-five miles due east of Port Jackson Heads, expecting to reach bottom at a depth of about 2000 fathoms. This was unsuccessful, and, owing to the coming on of heavy weather, we were obliged to run in nearer to the coast. Early on the morning of the 7th June the bucket-dredge was let go in 80 fathoms, twenty-two miles east of Narrabeen, and returned with a satisfactory load. Leaving this station the vessel was steered about six miles east by south, and the trawl was lowered in a depth of 200-300 fathoms. It brought up some specimens of a Sea-urchin *Porocidaris elegans*, A. Ag., obtained by the "Challenger" at Station 164a, 410 fathoms, and Station 214, 500 fathoms, half-a-dozen specimens of a large Spatangid, as yet undetermined, and an undetermined Penmatulid. As the weather still continued extremely rough we were obliged to desist and return to port.

During the dredging operations use was made of the surface net, and at the farthest east limit a rich surface fauna was met with, comprising Radiolaria, Foraminifera, a Vorticellid, Dino-

flagellata, Chaetognatha, a Polyclad, Polychaeta, Crustacea, Heteropoda, Pteropoda and Urochorda. Nearer the coast the Radiolaria, particularly the colonial forms, were less abundant.

The mass of deposit brought up by the bucket-dredge consisted almost entirely of calcareous organic structures. The great bulk of this was composed of calcareous Polyzoa, mostly in small fragments, with numerous Foraminifera, many shells, and a considerable number of small solitary corals. The representatives of the last-named group which have been examined by Mr. J. S. Dennant, M.A., F.R.G.S., comprise *Platyotrochus compressus*, Ten. Woods, *Deltocyathus rotiformis*, Ten. Woods, *Dumocyathus parasiticus*, Ten. Woods, *Leptopannus discus*, Moseley?, *Notophyllia recta*, Dennant, *Holcotrochus crenulatus*, Dennant, *Flabellum australe*, Moseley, *Trematotrochus verconis*, Dennant?, and two new species, one of *Trematotrochus* and the other of *Flabellum*. A few small sponges, not yet determined, were attached to the tangles. The Polyzoa are being examined by Mr. C. M. Maplestone.